

BEST AVAILABLE COPYU.S. Patent Appl. No.: 10/668,750
Response to Office Action Dated 11/17/05
Page 6 of 10**APPENDIX A - CLAIM AMENDMENTS**

Serial No.: 10/668,750

Docket No.: 11242-320

-
1. (Currently Amended) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor means, adapted to be positioned adjacent a mucosal surface within a patient's body ~~and for measuring blood flow in adjacent tissue~~; a PCO2 sensor means, adapted to be positioned adjacent the mucosal surface ~~and for measuring PCO2 in the adjacent tissue~~; and an indicating means operably connected to the blood-flow sensor means and the PCO2 sensor means, for indicating the measured blood flow and the measured PCO2, whereby wherein a measured blood flow in the adjacent tissue that is substantially lower than a normal blood flow and a PCO2 measurement that is substantially higher than a normal PCO2 measurement is indicative of the degree of systemic perfusion of the patient ~~may be deduced~~.
 2. (Original) The device of claim 1, wherein the mucosal surface is in the gastrointestinal tract.
 3. (Original) The device of claim 2, wherein the mucosal surface is in the esophagus.
 4. (Original) The device of claim 2, wherein the mucosal surface is in the stomach.
 5. (Original) The device of claim 2, wherein the mucosal surface is in the jejunum.
 6. (Original) The device of claim 2, wherein the mucosal surface is in the colon.
 7. (Original) The device of claim 2, wherein the mucosal surface is in the rectum.
 8. (Original) The device of claim 1, wherein the mucosal surface is in the upper respiratory/digestive tract.
 9. (Original) The device of claim 8, wherein the mucosal surface is in the nasal passages.
 10. (Original) The device of claim 9, wherein the mucosal surface is in the vestibule of the nasal cavity.

U.S. Patent Appln. No.: 10/668,750
Response to Office Action Dated 11/17/05
Page 7 of 10

11. (Original) The device of claim 9, wherein the mucosal surface is in the nasal cavity.
12. (Original) The device of claim 9, wherein the mucosal surface is in the middle nasal conchae.
13. (Original) The device of claim 9, wherein the mucosal surface is in the inferior nasal conchae.
14. (Original) The device of claim 9, wherein the mucosal surface is in the choana.
15. (Original) The device of claim 9, wherein mucosal surface is in the pharyngeal opening of the auditory tube.
16. (Original) The device of claim 8, wherein the mucosal surface is in the oral cavity.
17. (Original) The device of claim 8, wherein the mucosal surface is in the pharynx.
18. (Original) The device of claim 8, wherein the mucosal surface is in the oropharyngeal passage.
19. (Original) The device of claim 1, wherein the mucosal surface is accessible by a mouth and connects with the gastrointestinal tract.
20. (Original) The device of claim 1, wherein the mucosal surface is accessible by a nose and connects with the upper respiratory/digestive tract.
21. (Original) The device of claim 15, wherein the mucosal surface is a sublingual surface.
22. (Original) The device of claim 1, wherein the device further comprises a positioning means for locating or maintaining the blood flow sensor at a position in the upper respiratory/digestive tract.

U.S. Patent Appln. No.: 10/668,750
Response to Office Action Dated 11/17/05
Page 8 of 10

23. (Original) The device of claim 22, wherein the positioning means is a holder adapted to fit within the oral-nasal cavity of the patient and maintain the blood flow sensor in place adjacent the mucosal surface.
24. (Original) The device of claim 23, wherein the positioning means is a holder adapted to fit within the mouth of the patient and hold the blood flow sensor in place adjacent the mucosal surface.
25. (Original) The device of claim 23, wherein the holder is adapted to position the blood flow sensor adjacent a sublingual mucosal surface.
26. (Original) The device of claim 23, wherein the holder is constructed to fit between the inside of a lip and gum of the patient.
27. (Original) The device of claim 23, wherein the positioning means is a holder adapted to fit within the vestibule of the nasal cavity of the patient and hold the sensor in place adjacent the mucosal surface.
28. (Original) The device of claim 1, wherein the blood-flow sensor is a laser-Doppler blood-flow sensor.
29. (Original) The device of claim 1, wherein the blood-flow sensor is an ultrasound-Doppler blood-flow sensor.
30. (Original) The device of claim 1, further comprising a pH sensor.
31. (Original) The device of claim 1, further including a means for determining the rate of change of blood flow.
32. (Original) The device of claim 31 wherein the determining means comprises a circuit for generating a signal representing rate-of-change of blood flow.
33. (Currently Amended) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor, adapted to be positioned adjacent a mucosal surface

BEST AVAILABLE COPY

U.S. Patent Appl. No.: 10/668,750
Response to Office Action Dated 11/17/05
Page 9 of 10

within a patient's body and measuring blood flow in adjacent tissue; an indicating means operably connected to the sensor means, for indicating the measured blood flow ~~whereby the degree of systemic perfusion of the patient may be deduced~~; and a sensor holder with an inner portion and an outer portion, said inner portion having a shape that is adapted shaped to fit in the mouth of a patient under the patient's tongue, said holder forming at least one holder passage extending from said outer portion to said inner portion, wherein the sensor is located within the holder passage and wherein a measured blood flow in the adjacent tissue that is substantially lower than a normal blood flow is indicative of the degree of systemic perfusion.

34. (Currently Amended) The device of claim 33, wherein the sensor holder has an upper surface that is adapted to supports the tongue of the patient.

35. (Original) The device of claim 33, wherein the outer portion has a slot for receiving the patient's frenulum, and the holder passage has an inner end lying on one side of said slot.

36. (Original) The device of claim 33, wherein at least a portion of the holder is comprised of an elastomeric material.

37. (Currently Amended) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor, adapted to be positioned adjacent a mucosal surface within a patient's body and measuring blood flow in adjacent tissue; a pH sensor, adapted to be positioned adjacent the mucosal surface ~~and for measuring pH in the adjacent tissue~~; and an indicating means operably connected to the sensor means, for indicating the measured blood flow and the measured pH ~~whereby the degree of systemic perfusion of the patient may be deduced~~ whercin a measured blood flow in the adjacent tissue that is substantially lower than a normal blood flow and pH measurement that is substantially lower than a normal pH measurement is indicative of the degree of systemic perfusion of the patient.

38. (Currently Amended) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor, adapted to be positioned adjacent a mucosal surface accessible by a mouth and connecting with an upper respiratory/digestive tract in a patient's body and measuring blood flow in adjacent tissue; an indicating means operably connected to the

BEST AVAILABLE COPYU.S. Patent Appln. No.: 10/668,750
Response to Office Action Dated 11/17/05
Page 10 of 10

sensor means, for indicating the measured blood flow ~~whereby the degree of systemic perfusion of the patient may be deduced~~; and a sensor holder adapted to hold the blood-flow sensor adjacent the upper respiratory/digestive tract mucosal surface wherein a measured blood flow in the adjacent tissue that is substantially lower than a normal blood flow is indicative of the degree of systemic perfusion in the patient.

39-60. (Canceled)

61. (New) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor adapted to be positioned adjacent a mucosal surface within a patient's body and measuring blood flow in adjacent tissue; a pH sensor adapted to be positioned adjacent the mucosal surface for measuring pH in the adjacent tissue; a PCO₂ sensor adapted to be positioned adjacent the mucosal surface for measuring PCO₂ in the adjacent tissue; and an indicating means operably connected to the blood-flow sensor, the pH sensor and the PCO₂ sensor, for indicating the measured blood flow, the measured pH and the measured PCO₂, wherein a measured blood flow in the adjacent tissue that is substantially lower than a normal blood flow, and a pH measurement that is substantially lower than a normal pH, and a PCO₂ measurement that is substantially higher than a normal PCO₂ measurement is indicative of the degree of systemic perfusion of the patient.